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What is claimed is:

1. A logic verification system comprising: a first logic cone extraction section for extracting first logic cones from a machine-executable object code compiled from a behavioral level description written in a programming language.

2. The logic verification system according to claim 1, further comprising:

a second logic cone extraction section for extracting second logic cones from an RT level

description; and

a logic cone comparison section for comparing the first logic cones and the second logic cones to verify equivalence between the first and second logic cones.

3. The logic verification system according to claim 1, wherein the first logic cone extraction section includes a symbolic simulation section.

4. The logic verification system according to claim 2, wherein the first logic cone extraction section includes a symbolic simulation section.

5. A logic verification system comprising:

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a storage section for storing
an object code compiled from an behavioral level
description written in a programming language,
an RT level description generated from the
5 behavioral level description,
correspondence information which specifies
information on pairs of fragments of descriptions to be
compared which are included in the behavioral level
description and the RT level description and which
10 specifies information on pairs of signals to be compared
for each description pair, and
compile information including mapping information
between the behavioral level description and the object
code;
15 a first logic cone extraction section for
extracting first logic cones of variables by
searching a code portion and the variables of the
object code corresponding to each fragments of
descriptions and each signals of behavioral level
20 description to be compared which are specified by the
correspondence information by referencing the compile
information,
setting initial symbol values in the variables,
performing symbolic simulation from the start to end
25 points of the code portion to produce symbol values when
the variable symbolic simulation ends, and

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using the symbol values as the first logic cones of the variables;

a second logic cone extraction section for extracting second logic cones each for the signals for each fragments of description of RT level description to be compared which are specified by the correspondence information; and

a logic cone comparison section for comparing the first logic cones and the second logic cones for each signals for each of the fragments of descriptions to be compared in the behavioral level description and the RT level description which are specified by the correspondence information.

6. A logic verification system comprising:

a first logic cone extraction section for extracting first logic cones from a machine-executable object code compiled from an behavioral level description written in a programming language;

a storage section for storing properties to be met by the behavioral level description; and

a model checking section for checking whether the object code meets the properties.

7. A logic cone extraction apparatus comprising:

an input section for inputting an object code

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compiled from a program description, correspondence information which specifies logic cone extraction areas within the program description and signals to be extracted for each of the logic cone extraction areas, and compile information including mapping information between the program description and the object code;

5 a symbolic simulation section which, by referencing the compile information, searching a code portion and variables of the object code corresponding to logic cone extraction areas and signals to be extracted which are specified by the correspondence information, sets initial symbol values in the variables, and performs symbolic simulation from the start to end points of the code portion; and

10 an output section for outputting symbol values which are obtained when the variable symbolic simulation ends, as logic cones of the variables.

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8. A logic verification method comprising the step of extracting first logic cones from a machine-executable object code compiled from a behavioral level description written in a programming language.

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9. The logic verification method according to claim 8, further comprising the steps of:

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extracting second logic cones from an RT level description; and

comparing the first logic cones and the second logic cones to verify equivalence between the first and
5 second logic cones.

10. The logic verification method according to claim 8, wherein the first logic cones are extracted by performing symbolic simulation.

11. The logic verification method according to
10 claim 9, wherein the first logic cones are extracted by performing symbolic simulation.

12. A logic verification method comprising the steps of:

inputting an object code compiled from an
15 behavioral level description written in a programming language, an RT level description generated from the behavioral level description, correspondence information which specifies information on pairs of fragments of descriptions to be compared which are
20 included in the behavioral level description and the RT level description and which specifies information on pairs of signals to be compared for each description pair, and compile information including mapping information

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between the behavioral level description and the object code;

searching a code portion and the variables of the object code corresponding to each fragments of description and each signals of behavioral level
5 description to be compared which are specified by the correspondence information by referencing the compile information;

setting initial symbol values in the
10 variables;

performing symbolic simulation from the start to end points of the code portion;

determining first logic cones of the variables as symbol values when the variable symbolic simulation
15 ends;

extracting second logic cones each for the signals for each fragments of RT level description to be compared which are specified by the correspondence information; and

20 comparing the first logic cones and the second logic cones for each signals for each of the descriptions to be compared in the behavioral level description and the RT level description which are specified by the

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correspondence information.

13. A logic verification method comprising the steps of:

5 extracting first logic cones from a machine-executable object code compiled from an behavioral level description written in a programming language;

inputting properties to be met by the behavioral level description; and

10 checking whether the object code meets the properties.

14. A logic cone extraction method comprising the steps of:

15 inputting an object code compiled from a program description, correspondence information which specifies logic cone extraction areas within the program description and signals to be extracted for each of the logic cone extraction areas, and compile information including mapping information between the program
20 description and the object code;

searching a code portion and variables of the object code corresponding to logic cone extraction areas and signals to be extracted which are specified by the correspondence information by referencing the compile

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information;

setting initial symbol values in the
variables;

performing symbolic simulation from the start
5 to end points of the code portion; and

outputting symbol values which are obtained
when the variable symbolic simulation ends, as logic
cones of the variables.

15. A computer program instructing a computer to
10 perform logic verification, the program comprising the
steps of:

a) extracting first logic cones from a
machine-executable object code compiled from a
behavioral level description written in a programming
15 language;

b) extracting second logic cones from an RT
level description; and

c) comparing the first logic cones and the
second logic cones to verify equivalence between the
20 first and second logic cones.

16. The computer program according to claim 15,
wherein, in the step a), the first logic cones are
extracted by performing symbolic simulation.

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17. The computer program according to claim 16, further comprising the step of storing an object code compiled from an behavioral level description written in a programming language, an RT level description generated
5 from the behavioral level description, correspondence information which specifies information on pairs of fragments of descriptions to be compared which are included in the behavioral level description and the RT level description and which specifies information on
10 pairs of signals to be compared for each description pair, and compile information including mapping information between the behavioral level description and the object code,

wherein the step a) comprises the steps of:

15 a.1) searching a code portion and the variables of the object code corresponding to each fragments of description and each signals of behavioral level description to be compared which are specified by the correspondence information by referencing the compile
20 information;

a.2) setting initial symbol values in the variables;

a.3) performing symbolic simulation from the start to end points of the code portion; and

25 a.4) determining the first logic cones of the variables as symbol values when the variable symbolic

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simulation ends.

18. The computer program according to claim 17,
wherein

the step b) comprises the step of extracting
5 the second logic cones each for the signals for each
fragments of RT level description to be compared which
are specified by the correspondence information, and
the step c) comprises the step of comparing
the first logic cones and the second logic cones for each
10 signals for each of the fragments of descriptions to be
compared in the behavioral level description and the RT
level description which are specified by the
correspondence information.

19. A computer program instructing a computer to
15 perform logic verification, the program comprising the
steps of:

extracting first logic cones from a
machine-executable object code compiled from an
behavioral level description written in a programming
20 language;

inputting properties to be met by the
behavioral level description; and

checking whether the object code meets the
properties based on the first logic cones.

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20. A computer program instructing a computer to perform logic cone extraction, the program comprising the steps of:

- inputting an object code compiled from a
- 5 program description, correspondence information which specifies logic cone extraction areas within the program description and signals to be extracted for each of the logic cone extraction areas, and compile information including mapping information between the program
- 10 description and the object code;

- searching a code portion and variables of the object code corresponding to logic cone extraction areas and signals to be extracted which are specified by the correspondence information by referencing the compile
- 15 information;

- setting initial symbol values in the variables;

- performing symbolic simulation from the start to end points of the code portion; and

- 20 outputting symbol values which are obtained when the variable symbolic simulation ends, as logic cones of the variables.